

Asclepias Pallivaria, near McHenry & also in various
places in Wisconsin. A very distinct species.

Aceratis visidiflora B. —
— *longifolia* Wet places

Amaranthus tamariscinus? I find 1 or 2 sp. probably this.

Euphorbia corollata, P & B, abundant & troublesome
in cultivated fields.

Betula pumila — Bogs & swamps

Sparganium natans — Ponds

Platanthera leucophaea P & B.

Cypripedium candidum — Marshes

Lilium Cataractae? P & B.

†? *Juncus* n. sp? a species which I found also at Dexter
and which Mr. Carey thinks is new.

† *Cyperus* — a species which I cannot determine
Carex intermedia, good. according to Prof. Dewey
in *Panicum* — (*C. madia* Linn)

— *titanica*

— *cephaloides*

— *siccata*

Sporobolus heterolepis, P. perhaps the most common grass of the

Stipa juncea — P. very common

Bouteloua racemosa, P. & B. common

Koeleria cristata do do

Friticum caninum B. common, certainly indigenous

Hierochloa borealis — Swamps

Panicum virgatum — Moist ground - common.

~~*Boltonia glastifolia*~~ — Wisconsin & Illinois

B. S. J.

I will enclose a head of the *Cyperus* which
I would like to have you report the name.
If you desire any of the plants of the
preceding list, I will furnish them with
much pleasure, and if you wish roots
send me word and I will procure all
I can. How does your "Genera" progress?
If you have any spare papers or pamphlets
on Botany or Science they would find a wel-
come with me. Is there published an account
of the recent Scientific Convention at Boston?

I am, as always, with great esteem, Yours very truly,

I have found here 2 species of the glow-worm
written a prominent, steady light.
in this country.

Ringwood McHenry Co., Illinois
Oct 1st, 1849

Dear Sir,

I have for some time had it in con-
templation to write to you, believing that you will
be interested in a few remarks upon the ~~sys-~~
~~tem~~ Botany of this section. When I last
communicated to you I was residing in Dexter
N.Y. I had the pleasure to send you, through
our friend Mr. Olney, some of the rarer plants of
Jeff. Co. Not long before I left there I received a
letter from you desiring me to collect some roots
for you, but my time was then so occupied with
my business and with preparation to leave that
I could not comply with your request. I informed
Dr. Wood of your wishes and desired him when he
found it convenient to collect and forward you the
roots. Whether you have since received them or
not I have not been informed. It will give me
pleasure to oblige you in any manner that I
may find in my power, at any time you may
desire my services. I have already sent parcels
of plants from this section to Mr. Carey & Mr. Olney,
but have not yet had a report from either of them.
You may perhaps have heard from Mr. Carey of some
of my collections in this section; but I have con-
cluded to give you a list of the rarer plants with
some occasional remarks which may possibly be ser-
vicable to you in the preparation of a 2^d edition of your
Manual, which by the way is an exceedingly valuable
book, and has been of great service to me, and
I presume to many other learners of Botany.

Ringwood Augt 27th 1860

Dr. Gray

Dear Sir,

I have just returned from an excursion into Southern Illinois, where I collected many interesting plants and among them 3 species which I have not thus far been able to determine, and have doubts as to their being described in the Manual.

I send you in this letter 3 specimens of each which I hope may reach you safely and will be glad to have you report on them as early as convenient. I will also copy my Notes respecting them, although that may be unnecessary.

No 1 - found in a ditch of standing water - herbaceous about 1 foot to 18 inches high - stem simple, - leaves alternate, lanceolate or oblong-lanceolate, entire, smooth and shining as also is the stem - leaves 1 to 2 inches long - flowers in axillary cymes or clusters of 2 to 6 in each axil, nearly sessile, with 2 slender spines of ~~an~~ equal length, coming out near the origin of the peduncle - flowers inferior, monopetalous, divided nearly to the base - sepals 5 lanceolate, foliaceous, rather unequal in size, 2 to 3 lines long - divisions of the corolla 5, ovate, equal, about the length of the sepals - stamens 5, equal, alternate with the petals and adnate to them near the bottom of the

corolla by an expanded mitre form base, shorter than the petals - pistils, or styles 2, slender, ~~beant~~ or curved across each other at the top - Capsule 2 celled, many seeded, roundish ovate - Corolla blue -

No 2. A smooth herbaceous plant growing in a still, muddy bay of the Mississippi - decumbent and rooting at the base - ^{branched below} flowering branches not about 1 foot high - leaves alternate, lanceolate 1 to 2 inches long, entire, petioles about half the length of the leaf - flowers axillary, 1 from each axil, peduncled - superior, petals 5, sepals 5 - petals ovate, yellow, fugacious, flowers about $\frac{1}{2}$ inch in diameter when expanded - stamens 10 short, inserted on the disk of the pod - pods 1 to $1\frac{1}{2}$ in long cylindrical, crowned with the persistent sepals - 5 celled, many seeded - peduncle & pod elongating after flowering and often becoming recurved.

Pistil simple, slender, capitate, both stamens and pistil rather shorter than the petals. Peduncle 1 to 3 in. long

 This figure is a rude diagram of the top or disk of the pod showing the *in situ*ation of first the pistil in the centre, second the 5 cells, and 3rd the 10 stamens which are inserted at the places indicated by the dots.

No 1 I collected at a station where the cars stopped a minute and had time to get only about half a dozen specimens - No 2 I collected perhaps 20 or 30 specimens

The principal plants collected in this excursion were - *Ambrosia bidentata* - *Leptopodium* - *Croton capitatum* & *C. monanthogynum* - *Aristida* 2 or 3 species undetermined - *Sida spinosa* - *Eupatorium* *Sciotium* - *Diodia tenuis* - *Cassia Marylandica*, *cham-acrista*, *nitida* & *C. obtusifolia*! on the banks of the Ohio - *Convolvulus* ^{multifida} *Convolvulus*

Helios I.S. Since writing the preceding I have Ohio banks - *Gossyp* been looking in Eaton & Wright's Botany ¹⁸⁵⁷ & *Eclipta* *Paspal* and by the old Artificial analysis traced to ¹⁸⁵⁷ *Eclipta* *procun* *Jussiaea* - and then I remembered the *J. repens* *volubilis*? in the appendix of the Manual - which I think is *Eclipta* *spinosum* the plant. I think your analytical tables require *Jussiaea* - *Tarion* - a little modification to receive it. ¹⁸⁵⁷, called *Tarion* - *Wild* By the same help (Eaton & Wright) I am led to think ¹⁸⁵⁷ *unalis* - *Seymer* No 1 to be a *Hydrobia*, a Southern plant. *Whales* - *Ulmu*. When I first found No 2 I thought it to be a *Polyodium* *incanum* - *Yucca whipplei* - *Collinsonia Canadensis* - *Ipomoea lacunosa* - *Commelinia aequinoctialis* - *Panicum* *anceps* & 1 or 2 others - *Discophora Nuttallii*! only 3 or 4 *Hypericum Drummondii* & *Sphaerocarpus* - *Nelumbium* *luteum* - *Limnobium Spongia*! *Iva ciliata* - *Dalea* *alopicea* - *Prunus chickasaw* fr - *Kyllingia paniculata* - *Aralia spinosa* (10 to 12 ft high) *Hibiscus moscheutos* & *militaris* - *Helianthus mollis* - & some others yet undetermined.

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No 2. A smooth herbaceous plant growing in a still, muddy bay of the Mississippi - decumbent and rooting at the base - ^{branches below} flowering branches erect about 1 foot high - leaves alternate, lanceolate 1 to 2 inches long, entire, petiole about half the length of the leaf - flowers axillary, 1 from each axil, peduncled - superior, petals 5, sepals 5 - petals ovate, yellow, fugacious, flowers about $\frac{1}{2}$ inch in diameter when expanded - stamens 10 short, inserted on the disk of the pod - pods 1 to $1\frac{1}{2}$ in long cylindrical, crowned with the persistent sepals - 5 celled, many seeded - peduncle & pod elongating after flowering and often becoming recurved.

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Helicop. ^{decandrous} *Ludwigia*, but its ^{decandrous} *Conoclinium* *Gossyp* character would not agree even ^{ca multipes} *Ohio banks* - *Paspal* with the order *Oenagracea* as given in - *Eclipta* *procu.* *Lycioides* fr. *Eclipta* *nolobus*? *Taxodi* *Thium spinosum* *(Banks)* *Mariama* - *Uviol* ^{ly}, called *innalis* - *Wild* *Phalaris* - *Seymer* *Ulmus* *Poly podium*

incanum - *Yellumia stipitacea* - *oreonsonia* *Canadiana* *Ipomoea lacunosa* - *Commelinia agravia* - *Panicum* *aceps* & 1 or 2 others - *Discophora Nuttallii*! only 3 or 4 *Hypericum Drummondii* & *Sphaerocarpus* - *Nelumbium* *luteum* - *Limnobium spougia*! *Iva ciliata* - *Dalea* *alopicea* - *Prunus chickas* fr - *Kyllingia* *Juncea* *Aralia spinosa* (10 to 12 ft high) *Hibiscus moscheutos* *militaris* *Helianthus mollis* - & some others yet undetermined.

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I have made several excursions into different parts of the State during the season, and have collected many interesting things, which I want to turn to good account in enlarging my Herbarium by exchange if I can find any party, who has anything which I want - There are still nearly 500 species of Phanerogams in the Manual which I want when an opportunity offers - Among my collections this season near home, are *Acetosella monosperma* - *Mimulus luteus* - *Sium angustifolium* - *Carex arida* - *Calamagrostis longifolia*! *Chenopodium glaucum*! (abundant at Chicago) - *Zygadinus glaucus*? *Calamintha Nuttallii* - *Rumex maritimus* - *Asclepias Sullivantii* - *Nasturtium officinale*! introduced & naturalized - *Scirpus planifolius*, the same as I sent you last year - and entirely destitute of the long radical leaves! also the *Juncus* of peculiar appearance which I sent you last year - *Nasturtium lacustre* - *Cladium mariscoides* - &c &c By the way *Juncus effusus* which you say in the Manual is everywhere I have not yet found in Illinois. If you want anything that I have mentioned I will try to give you a share -

Yours respectfully
Geo. Vasey

Ringwood Nov 9th 1860

Dr. Gray

Dear Sir,

Dr. Scammon

of Chicago, sometime ago informed me that he expected to go East after Election, and should probably visit Boston and see you - and I thought best to avail myself of the opportunity to send you some of my recent collections for your observation. Accordingly I have hastily made a small package, chiefly of such plants as I had more or less doubt concerning the nomenclature -

When you receive them if you will please to examine them, and as early as convenient report to me on such as are incorrectly named, or unnamed you will do me a favor. Dr. Brundel of Peoria Ill was in the

Southern part of the State in July
and collected some things not before
observed here, as *Brunnichia cirrhosa*
Forsteraonia diffinis, *Hydroea quad.*
Ascyrum Crustaudia, *Stylosanthes elatior*,
Heuchera villosa, *Oldenlandia angustifolia*
and what he calls *Descoleura Nuttallii*
which is probably the same as I collected.
I have no doubt there are yet many
additions to be made to our Flora in
the Southern part of the State.

I would like to know the cost of
such paper as you use for Herbaria,
and if you could procure some for me
if I send you the money for that purpose.
I think Mr. Babb told me that you
procured some for him - I want
some 3000 sheets or more. But I do
not wish to impose much on your time.
It is difficult to get here anything
suitable. I intended to have seen Dr.
Scammon before he left and com-

missioned him to buy the paper for me
but professional & other business, has
prevented my leaving home - Indeed
I do not know if he has yet left
Chicago, but I sent him the package
of plants for you -

I am your truly
Geo. Vasey

a great worker and if he has health will make a large and fine Collection. He certainly knows how to make good Specimens, and has made many Capital ones the last season — He finds what I consider the genuine Carix Vulpina L. of which I enclose a spike or two. I collect here what Mr. Carey calls so, but it is different, and very near Dewey's C. cypria ~~coidea~~, and they are both near C. Muhlenbergii than they are near C. sparganioides — at least this is my opinion — Mr. Hall has sent me Carix Richardsonii in fine state. He is in a very interesting locality.

I hope if our armies prosper to follow them in an excursion the coming season into the Southern States. I thank God that the cause of Union & Liberty moves on.

Yours truly G. Vasey

Ringwood Mch. 28th '62

Dr. Gray

Dear Sir,

Yours favor of the 24th ult. was duly received I am under great obligation to you therefor.

I forget whether I have heretofore said anything to you about our Astragalus Mexicanus. We find here an Astragalus which has been so called, (I think I have sent you specimens) but which differs much from the description given in the Manual — I have myself collected it only in fruit, but Mr. Bebb & Mr. Sloane have collected it in flower. The most prominent difference is in the fruit, which is not globular, not pointed, nor very obtuse, not 1 inch in diameter, I have not seen the green

young fruit, but from the appearance of what I have collected should suppose that nobody would eat it for the pleasure of it. Still I do not know but our plant may be some variety of the *Mexicanus* - but I have not been able to recognize my fellow laborers to the name. I hope next season to get it in such quantity and state as may enable you to convince us all.

I am pleased to hear that you are adding a Garden Botany to the Manual. I think it will give great satisfaction and be particularly useful for those students who set down go from the Garden to botanize - I think it is because Mr. Woods Botany describes so many Garden plants, that his work has been so much used.

I send you a few more specimens

which I have received from my Western friend. He says the *Abomia umbellata* was so named for him by W. Meehan Editor "Gardeners Monthly" Pa - I do not find the name in any work that I have. The *Delfphinium* he has himself called *D. gracilis*. It grows about Council Bluffs Is. If you can name them from these fragments, I shall be much obliged. The Pentstemon he has labelled *grandiflora* but it appears to me hardly to answer to that - He has sent me some seeds of the same and I hope to cultivate it and then get a whole specimen.

Mr. Hall of Athens Ill. informs me that he has made an arrangement with Dr. Parry to go with him to the Rocky Mountains the coming summer. I hope they may find it to their mutual advantage. Mr. Hall is

N. A. Flora, says "radical leaves on slender petioles, broadly rhomboidal."
In my plant the radical leaves are always linear-spatulate - the caudine pair is very variable - usually at first united into a pinnatifid leaf, but presenting numerous gradations between that and oblong lanceolate or almost linear and sometimes starting below the middle of the stem - I have mature seeds and shall try to cultivate it more at large next year.

Helianthus rigidus - I meant to have written *H. hirsutus*, as I know *H. rigidus* quite well -

With many thanks for your kindness

I am truly yours
Geo. Vasey

Ringwood Nov 28th 1862
Prof. A. Gray
Dear Sir,

Your letter of the 7th inst. was duly received, also the sheets of Silliman, and the Garden Botany from the Publishers -

This Garden Botany is just the thing which has been needed to adapt the work to the use of those Schools &c whose principal reliance for specimens is upon the Gardens & Greenhouses.

The Additions are of much interest, though I apprehend there are a few errors in giving the names of parties ^{collecting} finding plants - thus, *Artemesia frigida*, you give the name of E Hall, where I think it should be J. J. Hale, as I have it from Mr Hale, and I think Mr Hall has not collected any in Wisconsin. The same thing occurs under *Lycopodium juncea*;

Coriospermum hyssopifolium I have seen only about Chicago - Mr. Hall cultivated it from seeds which I sent him - I do not think it grows wild there.

I thank you very much for your notes on the plants I sent you. With ^{only} a few I do not feel quite satisfied but will try to clear them up another season if spared in life & health.

The *Mentzelia* which I sent you opens its flowers in the evening, hence I thought it might be *M. ornata*.

I am right glad to have you clear up the *Gerardias*. I see into them now. I see the squarrose tips of the scales on *Liatris pycnostachya* but I doubt the distinction being enough to make it a species - It seems to me there is about the same difference between *Vernonia Nova-Boracensis* & *V. fasciculata* - We have here a form of *Vernonia* which appears like the *V. Nova-Boracensis* in every thing except the scales.

The seed of the *Oenothera pinnatifida*? came from Sacramento, California - I rather think it is *O. pinnatifida*, but I did not get any ripe fruit.

Discophlura capillacea var. *costata*, is so different from all that I have seen of the original plant, that I think it deserves a specific distinction. The plant from which I collected my specimen, grew 4 or 5 feet high, stout & much branched.

I will get you good heads of *Cirsium Pitcheri* next year if all goes well. The *Nasturtium* I sent you was from the same locality as what I before sent you and you named *N. obtusum* - but they may both grow together, or is there not some danger that there may be only one species of the two -

I think you must be mistaken on the *Claytonia* - I fear I did not send you as great a variety of specimens as I intended.

The description of *C. perfoliata* in the



Washington, D.C. Apr 6th 1872

Prof. Asa Gray

Dear Sir,

I have just entered upon my duties as Botanist of this Department.

During the many years of our correspondence I have been under multiplied obligations to your kindness, and in my new position I wish to solicit a continuance of your regard. May I exercise the privilege of consulting you upon ^{the} many difficult questions which will frequently come to my attention?

regards of your professor, returning to him the plants sent to me at whatever sacrifice of time. Personally it would give me great pleasure to act you in the same way. I am given to understand that you will not be able to address me directly but only under the signature of the Commissioners of Agriculture; and there is reason to see that a correspondence between the sent incumbent and myself could only be carried on in the freedom and confidence required for these scientific matters.

Under these circumstances you and I might correspond with our accustomed freedom. But the demands upon my time are so pressing that no great amount of time can be spared from me in any case.

Believe me to remain

Very truly yours.

" - Gray."

I sincerely hope that I may look for your support and assistance in the prosecution of the work under my charge.

Yours very truly
Geo. Vasey

(Reply - Copy ^(S.W.))

" - Gray,

I thank you favor of the 6th inst. informing me that you have entered upon your duties as Botanist of the Agricultural Department, and I hope you will have the privilege of consulting me upon the many difficult questions which will frequently come to your attention.

The Commissioners of Agriculture, I think, could not do better than to secure your services, and I am glad that we may confidently hope that the Herbarium in your charge will be duly cared for. I always attend to the

Department of Agriculture.

Washington, Oct 7th 1873

Prof Asa Gray
My dear Sir

I send you to day by
mail from this Department a copy of Stansbury's
Report according to your request, which please
receive without charge, as a small return for your
Planta Ferdinand - It will give me pleasure at any
time to do you a favor - I have lately rec'd some seeds
from Idaho, which I divide with you, thinking you
may desire to grow some of them -

I want some more genus Passer - say 2 Reams
Is it to be had in Boston? If you can order that
quantity sent to the Dept. I would be much obliged

Respectfully yours
Geo. Vasey

Geo. Vasey.

~~Boott~~ David.

Trans. Linn. Soc. 17, 439-444.

Descriptions of five new species of the Genus *Pinus*, is second by Dr. Coulter in California -
Pinus Coulteri, 440
" *muelleri*, 441
" *radiata*, 442
" *tuberculata*, 442
" *Bracteata*, 442

Department of Agriculture.

Dear Sir - a monograph of *Streptopus*, Washington, Nov 3rd 1873
with the description of a new species now first separated from it,

Streptopus, 526 + syn

Trans. Linn. Soc. 18, 525-534.
(1840)

Mr. George Watson

Prosartes longistylis, 532

" *longistylis*, 533

Dear Sir,

The seeds sent you
in the spring were of Major Powell's Collection.
I am glad that you have obtained something new
from them - I have been looking for more of the
seed but do not yet find any - of that which
was planted here very little came up, and of that
nothing that I thought valuable. I sent pack-
ages to several other persons - to Mr E Hall,
and I think to Eaton & some others, but have had
no Report. I enclose a few seeds of an Iris
and of the *Aquilegia leptocera* from Arizona.

I am making up a package to send Dr. Gray and will
also send some roots with Dr. Pickering's package -

Yours truly Geo. Vasey

Board on Behalf of U. S. Executive Departments.

U. S. DEPARTMENT OF AGRICULTURE.

Washington, D. C., Jan'y 17th 1876

Dr Asa Gray

My dear Sir,

The parcel of plants I sent you last week was collected by Mr L. J. Ward, botanist of Powell's Expedition, the past summer. I am very glad that you give his name to the new species. The specimens sent can be retained as far as they are desirable to you. I will send you another package soon. I thank you for the "Nat. Contrib." I wish you had referred by numbers to the new species of Dr. Palmer's. If it be not too much trouble I would like to have the numbers at some convenient time. The collection of wood specimens is absorbing most of my time at present.

Truly Yours
Geo. Vasey

Bartsia tanella, Pers. 1,141.

Rivina laevis 149

Ruellia scandens 152

Myrsinum Virginianum 157

Lithospermum turkestanicum 158

Antennaria hispida 158

Hedysarum Canescens 158 (Bifidum, 158)

Carex leavenworthii 159

Prickly Virginianum 159

Cynophorus Virginianus 159

Andropogon corymbosus 160

Polygonum perfoliatum 160

Veronica 160

Monotropa 160

Lesq. 160

Mollugo 160

Lychnis Virginianum 160

Phloxia bifida 160

Primula elatior 160

Hedysarum diffusum 160

Veronica 160

Carex canescens 160

Urtica dioica 160

Forstiera elliptica 160

Prunella vulgaris 161

Myrsinella hirsutissima 161

Trifolium 161

Lychnis coronaria 161

Gratiola or Grindelia 162

Cilicium 162

Lychnis 162

Heuchera barbata 162

Corynephora Canescens 162

Abromia umbellata 162

Convolvulus althaeoides 162

Galium aparine 162

Carduus Leontopodium 162

Cyperus alternifolius, L. Persoon 1,163.

Cyperus alternifolius, Pers. 1,163.

Agrostis, 163.

flavescens, 163.

virens, 163.

strigosus, 163.

Oulicium apothecacum

Canadense, 163.

Scirpus heteroleptus 163.

latifolius 163.

Chilensis 163.

capitatus 163.

andeanus 163.

America, Pers. 1,163.

reticulatus 163.

flavescens 163.

canescens 163.

strobiliferus 163.

moniliferus 163.

canescens 163.

Scirpidium 163.

Bryophyllum pinnatum 163.

lineatum 163.

virginicum 163.

virginicum 163.

canescens 163.

INTERNATIONAL EXHIBITION OF 1870

Board on Behalf of the U. S. Executive Departments.

U. S. DEPARTMENT OF AGRICULTURE.

Washington, D. C. May 16th 1876

Mr. George Watson

Dear Sir

I neglected yesterday to include seeds of the fruits sent you, they had fallen from the capsules. There are I think about 3 in each cell.

Yours truly
Geo. Vasey

The set of botanical specimens of Dr. J. D. Rottrock's collection in California in 1875, mentioned in your letter of 28th January, was duly received. Please accept my sincere thanks. The specimens (426) have been examined and Dr. Rottrock has been notified of the determination. Yours very truly

Department of Agriculture,

Washington, D.C. Nov 2nd 1876

Prof. Asa Gray,

Dear Sir,

I send to-day
to your address a specimen of
Traxanus Curtisii, I did not
find any other than the one in
the Herbarium, but Pa says he
thinks he put one aside for you
and when he finds it will ^{pasay} send
it. You can keep this as long as
you wish, as it is not needed
here just now.

Pa is gaining slowly, he was
over for about an hour this
morning but was not able to
do any thing. He tried to write
but can not write but a few
lines before he is tired out.

Yours to you, but

We think he is getting along nicely, and as you said needs thorough rest, which will be very hard for him to take as there is so much to be done here and he will not let his mind rest from it. Am glad to do anything for now that I can.

Thanking you for your very kind letter expressing ^{your} sympathy & concern respecting Dr. A. I am

Very respectfully
Henry A. Vasey.

Department of Agriculture,

Washington, D. C., Jan'y 24 1879.

Prof Asa Gray

My dear Sir

Your letter respecting

the Rhododendron is rec'd. I am glad
that you decide to publish it.

My son writes that it was collected on the
summit of a balsam mountain, about 7 miles
S. W. from Webster Jackson Co. N.C. about
June 3rd 1878. He does not state the size
of the bushy but I will write and enquire.

Your card is rec'd this A.M and I have
put up a specimen of the Panicum and
sent to Mr. Munro, with a promise of some
other grasses which I would like him to see

over

Truly yours Geo. Vasey

P. S. As to the name of the Rhododendron
use your judgement. I do not care much
on my own account, perhaps it might stim-
ulate my son to some new zeal &c. I had
thought *R. Carolinianum* would be appropriate.
I have not found more than 5 stamens in
any of the flowers in my possession. I think
from the appearance of the twigs that it is a
dwarf bush, probably not over 2 or 3 ft high.
If it has any commercial value I would like
my son to get the benefit - but it would
cost 100 or more dollars to go there and then
perhaps not get an ounce of seed.

Truly yours
Geo Vasey

Department of Agriculture,

Washington, D. C., May 14th, 1880.

Dear Sirs

I am always glad to receive
Chirography, even when it is sent to a agency of some
other person, as in the case of the 11th inst.

Last year I sent you a leaf of a *Xanthoxylum* which
had been sent from Texas or New Mexico, which I sus-
pected might be *X. hymenopeltatum* Benth., but I then had no
flowers. I now send a leaf with a small branch of the
flower panicle and a few matured flowers. The difficulty
or at least one difficulty as to its identity is that Dr. Gray
in his description says root white while the root of this
is dark red. He also quotes Dr. Thunberg for "foliage in-
teusely white", which is not applicable to our plant.
The root is used in New Mexico for tanning purposes.
It is thick and tuberous. When you write again please say
what you think of it.

I had a short time ago from Mr. J. P. Norton
reaching, inquiry about grasses which he sent to me

in 1875, and which I according to his desire
divided with Dr. Gray. I made one new species
which I called *Poa Lemmoni*. It is of the *Sclerochloa*
section and should perhaps be called *Glyceria*.
Mr. Leimann seemed a little anxious lest in the
coming volume of *Cal. Botany* his grasses should
not be sufficiently noticed. I replied to him that
I had sent a copy of all the grasses
he sent me and that whomsoever elaborated the grasses
for the *Cal. Botany* would probably have access to
these. I have given manuscript names to several
California species, in which however Prof. Kuntze
and others may disagree with me. I will especially
mention a *Gymnostichum* of my son's collection which
I have called *G. Californicum*.

Yours truly
Geo. Vasey

Mr. —
Department of Agriculture,

Washington, D. C., June 18th, 1880.

Prof. A. S. Gray
atty. Gen. U. S.

Dear Prof. Gray,
I am sorry to inform you that Dr. Blum has died.
It seems a great pity that that Blum could
not have lived long enough to finish his work.
I hoped to have his determinations to the package sent him,
but it is mostly unnumbered.

As to the grasses of Alaska &c., one package of grasses
of the Sandwich Islands was returned by you more than a
year ago, and I suppose most of those of the Cal. & Oregon
have been described by Dr. Gray, in Prof. Will's Vol. 17.
I would be very glad indeed to work up the grasses returned
to you if I had the ability and proper facilities. I have
been anxious for years to be able to know thoroughly all the
N. American grasses, but have greatly needed the facilities
named especially from the Mexican border & Pacific
Coast. We now have a set of ^{the} Mexican grasses, collected by
Haworth, but they are mostly unnamed. We have probably
most of those collected by C. Wright in N. Mex. but none

of those collected on the Mex. Boundary Survey.

I think you had better send on the package and I will make the distribution you indicate, naming the coll. and giving names where I can.

I suppose there need be no real difficulty with Australian and New Zealand grasses, with the excellent descriptions of *Grasses in Flora Australiensis & Prodromus of New Zealand's flora*.

At all events I think I have had enough experience in the work to prevent going wild or making serious mistakes, and as you suggest, if any foreign entomologist should wish to study them he would have the opportunity.

I hope you will have an agreeable time abroad and a safe return to your friends and country.

With my best regards

Yours truly
Geo. Vasey

Vasey

Department of Agriculture,

Washington, D. C., June 24th, 1880.

Prof. Asa Gray
My dear Sir

Your letter is received, & also
the box of grasses. I have looked them over hastily
and find that, although many are unnamed, yet by
bringing the families together I think 75 per cent can
be readily named; some sets are pretty fully named, and
will name others. I will bring them together, number
them, name such as are clear, and distribute them
according to your suggestions. Will send you a full
list as soon as I can prepare it.

I think we had better use the labels giving localities,
if you have enough of them. Probably ^{or 60} 50 sheets
would be enough - I enclose stamps for postage.
Mr. Leibau, Prof. Porter, & Leidy, both, were here yesterday
on their way to the Mts. of N. Carolina.

Mr. E. Hall wrote me some time ago that he was going to spend
a few weeks, then.

Yours truly
Geo. Vasey

Yassey

Department of Agriculture,

Washington, D. C., Feby 15th, 1881.

Prof. C. L. Wilson

My Dear Sir

Yours of the 11th with the package
have been duly received, and I thank you very
much for your determination of the plants. I am
sorry you did not retain the entire specimen of the
new *Distilatia*. I intended it for you, but now will
try to send you another with my next parcel. I
would like you to despatch it now for the reasons men-
tioned in my letter, but I appreciate your prefer-
ence. As to the *Geckostoma Parvum* there is a Specie-
for you in my first parcel, but as I have since rec'd
more specimens I will send you additional ones. I think
that although near *I. lauata* it is distinct.

The grasses of Wilkes Expedition are now separated and
ready for distribution. Dr. Gray requested that I be

1st duplicates should go first to Harvard, 2^d to Kew,
3^d to St. Petersburg, 5th to Columbia College N.Y.
14th & 15th to Philadelphia Academy

Shall I send on the package for Harvard, ? and if
so shall I send with it those for Kew & St. Petersburg ?
or had I better send them from here through the A.M. ?
The sets 4 & 5 are very small, for the duplicates
 seldom went beyond 3 sets.

Yours very
W. C. Brewster

Very
W.C.B.

Very
W.C.B.

Department of Agriculture,

Washington, D. C., March 3rd, 1881.

Dr. George Watson

My dear Sir

Your letter and the package of plants have been rec'd. I am very much obliged to you for your trouble in examining and determining them. I shall send you another package in a day or two; among the specimens, I will send a flowering specimen of the *Brachanthus*. I will also return the specimen of *Carduus* No. 3 and ask you to review it. I think it is not *B. Torreyi* for the reason in part that if I observe correctly, the partitions which separate on the valves - further the leaves are too wide for that species and the floral bracts are longer than the capsules, whereas in *B. Torreyi* (if what I send you under that name is true) the bracts are only as long as shorter than the capsules and narrow lanceolate. I will also send more forms of *Lythrum*. The *Deltoides* is

not seem to answer to *D. variegatum* because it was
tall and rather stout, and the flowers are hardly on long
pedicels in a short open raceme -

The *Cyparis* I do not doubt is new, and I accept your
name *Sequoia*. I have written my son for more infor-
mation as to its locality &c.

I hope that you will on comparison find satisfactory
points of distinction between *Sequoia* & *Sequoia*.
I send 2 or 3 Specimens from the Parish in which the leaves
are narrower and ^{more} acute than in my son's.

Truly yours
G. F. Cassey

P.S. You may if you please send an official acknowledgement
of the Graph of Wilkes, Esq. to the Commissioner.

Department of Agriculture,

Washington, D. C., April 4th, 1881.

Prof. C. Watson

My dear Sir

Your letter of the 30th ult. was
recently received, and I thank you for the de-
scriptions of the plants sent. After I had sent
the package the night came to me that I had
made a blunder about that, "Lychnis" - I accosted
the genus name of the ticket and was with difficulty
the species. I will try to look sharper next time.
I had some difficulty in making the characters of the
"Hemizonia" fit, but it was so different from any form
of *Lapathella* in one that that, I did not compare with
that. I tried to make the *Hulda* answer to California
but the "apparently naked stem" would not fit.

The *Lessertia ranunculoides* two terms does not agree with

The character given, as to the color of the flower
I will send you another package in a few
days nothing that I may not offend too much
on your time. I send a herbarium asking about
L. blechnoides latitolia Munro - but you may not have
rec'd it. I would like to know if it is a flattened one
I have a letter to day from Prof Macoun saying
that last December he sent to my address through
you a package of grasses collected by him last
Summer. No such package has been received
in my knowledge.

of
July 11
Geo. Basler

Department of Agriculture,

Washington, D. C., June 17th, 1881.

Prof. S. Watson -

My dear Sir

Your Postal rec'd yesterday.

I cannot find an odd vol. of the Botany of the Mex. Boundary at any of the stores, though one of the dealers said he could find me one for \$6⁰⁰ I can get the set 3 Vols. for \$9⁰⁰ sent pre-paid. Frequently I have been able to buy the Botany alone for 3 or 4 dollars, but the vol. is getting scarce and dear. I shall probably send you a package to-morrow. I have a card from Dr. Palmer saying that he will be here in a few days -

Truly yours
Geo. F. Vasey

Department of Agriculture,

Washington, D. C., June 23rd, 1881.

W. C. Watson

My dear Sir

I was disappointed when I went to examine the Miss Rhoad. volumes, in finding the third volume in poor condition and hesitated very much as to whether I had better send them or not. But, this was, the only chance I knew of in the city, and I concluded to send them. The dealer proddled, that, I could easily get \$12⁰⁰ if the 3rd vol was perfect, but dealer's terminology must be taken with allowance. However if you think these cannot pass send them back and I will have them disposed of otherwise. I have done the best I could, but without satisfying myself.

Very truly
Geo. Vasey

Wash. D. C.

June 23^d, 1881

Prof. Sereno Watson
Botanic Garden
Cambridge.

We have mailed
you today as per order of Prof. Vasey
of the Ag. Dept. a set (3 vols) of
Mexican Boundary, a very choice
copy, considering that it was pub.
about thirty years ago, consequently
entirely out of the question to
get perfectly new. We have sold
them for twice as much as
Prof. Vasey paid us & we trust though
the 3^d Vol. is a little imperfect, which
we showed & explained to Prof. V., they will
suit you, we would be pleased to
send you anything else in the book
line at lowest rates. Enclosed find
J. A. Hopkins

Department of Agriculture,

Washington, D. C., July 21, 1881.

Dr. George Watson

My dear Dr.

I send you to day by mail a small
package containing some plants from Idaho collected
by Dr. E. J. Gilcock, who makes miserable specimens, but
some of the plants are not altogether familiar to me; and
also a few collected by my son in New Mexico. Will
thank you to look at these and return a report. Retain
any that may be desirable and return the rest.

I hardly know yet what to think of Dr. Loring. He
seems to look upon the Department affairs with a good
deal of suspicion, as perhaps he has occasion to be some
directions. But the work of my division has been put
back from want of help. Six months ago my helper was
discharged for want of funds, and great quantity of plants
has accumulated which need to be properly mounted for the
Herb. I cannot do everything with my own hands, and
it is not necessary, as there is an appropriation for

paying for odds and buying specimens. But Dr. Gorst
has not yet consulted that I may make use of his ap-
propriation for the purpose indicated. He said he would
look into the subject and see. This is not very com-
muning to me, and is in fact quite mortifying.

There is also an appropriation for an Assistant Botanist.
His duties are not defined, but it was understood under
the old Government, that he was to especially take up
Cryptogamic Botany. But Dr. Long seems to have
more utilitarian views, and wants an Economic
Botanist or perhaps rather an Agricultural Botanist.
I have mentioned to him Mr. C. G. Pringle as one who
will perhaps answer his views —

My ambition has been to bring this Herbarium up to a
first class standard, in fullness and perfection of specimens,
and if allowed to proceed a few years longer, I think I
should reach the standard.

Excuse this personal depression

Truly yours
Geo. Vasey

Emerson? of Harvard University

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bushes, plants, the bults also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., Oct 10th, 1881.

Prof. Sereno Watson

My dear Sir'

Your Postal of the 7th is received. In reply I would state that I have not published "Poa purpurascens." Several years ago Dr. Gray kindly lent me his Poas to study. I also had those of Dr. Jones. *P. purpurascens* I founded on Parry's 294 Yellowstone Coll. with one of Hayden's from the Uinta Mts., and Mr. Hall's 633 Oregon. We have in our Herb. only a poor specimen of the latter. At the time named I drew up the following notes of the same; "Culm erect, 1 ft; leaves flat, short, 1-2 inches, pubescent, minutely scabrous on the margin; sheath 3-5 in long, striate, smooth, shining; ligule short, incised; panicle erect, contracted, 1-2 inches long, oblong-ovate, rays about in 3^o; glabrous; spikelets ovate, 3-4 flowered, short pedicelled, glumes thin, lanceolate, acute, about equaling the palea; lower palea ~~scabrous~~ lanceolate, rather trigonous, minutely scabrous, slightly pubescent or glabrous, 3-5 mm, upper third scabrous, not webbed. Panicle & upper part of culm & sheaths often deep purple"—

Among all the grasses I have since received I have

not seen this form, and I did not like to publish without more material. It seems to have somewhat the habit of your *P. Eatoni* of which I have seen very little. Whenever you get ready to study *Poa* and *Atropis* I would like to put some material in your hands. I have a great quantity of specimens and am trying to classify them, especially the section *Atropis* (genus as given by Prof. Thunb), but confess I never had so hard a task. I had hoped that the Bot. Calif. would straighten out *Atropis* at least, but I am in more confusion than ever. Thus, Prof. Thunb gives *Atropis Californica* = *Poa Audina* Nutt. which I believe to be a good *Poa*. Griseb distinguished his section *Atropis* "spikelets linear, lower glum less than half as long as the florets" In the package of grasses which I sent to Gen'l Munro, and which was returned to me after his death, he wrote "*Atropis Californica*" on the ticket of my *Festuca Oregon*. But I will not proceed at present.
I sent you a parcel and letter on Saturday.
Hoping again to hear from you soon

I am Your truly
Geo Vasey

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., June 19th, 1882.

Mr. George Watson

Cambridge Mass

Dear Sir,

Yours of the 16th inst is received. Please send us one set each of Fas. 4 & 5 of Curtiss' Plants. I enclose vouchers which you can fill out if convenient, as that will be a quicker way than to write to Mr. Curtiss.

July Young
Gen. Vasey
Botanist Dept. Agricult.

Rec'd check for #36, and remitted to
Curtiss in Tennessee on July 5/82

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

United States

Department of Agriculture,

DIVISION OF BOTANY,

Washington, July 28th 1883.

Prof. J. Watson

My dear Sir

Yours of the 25th inst rec'd. It was hardly worth while to return the notes of A. L. Nels as they are so nearly unintelligible. I cannot agree with you as to Palmer #1357, but when I see your paper I may perhaps be convinced. Neither can I agree with you in referring my *B. pusilla* to equal #1358 Palmer. It is near the *Chondrosium humile* HBK. but I think distinct. I am glad that you have named the Texas species. It had passed so long as *B. affinis* Hook that I thought it might be genuine and the reference in Gray's Manual an error. Am glad that you are satisfied with *B. Havardii*. It is a very distinct form —
I hope to have the pleasure of seeing you at Minneapolis.

Very truly yours,
Geo. Vasey.

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

United States

Department of Agriculture,

DIVISION OF BOTANY,

Washington, Augt 7th 1883.

Prof. G. Watson

My dear Sir

Your paper on the Gram. & Cyperaceae has been received and I am very much obliged for the same. I would be glad to make some extended notes but cannot at present as I leave to-morrow to go west. After my return I will refer to the paper again, but will mention a few points now. As to *Panicum gigantum* Schult. I did not mean to confirm the reference, but only to say that Dr. Palmer 1338 was the same as 816 E. Hall which had been referred to *P. gigantum* Schult.

No 957 P. & P. can hardly be *G. uniseta* For. It is *G. setosa* var. *Canadensis* in my opinion. *G. uniseta* was distributed in one of McCarter's families as not from Texas. I am glad that you have settled that curious *Tricuspidia monstrosa* Muell. I had accepted it as a *Tricuspidia* without a thorough examination. There is a chance for another new genus in *Graphiphorum flexuosum*, which in my opinion is generically distinct. 955 P. & P. I call *Heteropogon Allioni* — perhaps it is not specifically distinct from *H. contortus*. *G. hydroponic lagu-*

zoides &c? distinct from *A. Saccharoides* &c?

There are several numbers of Pt. Palmer's collection to which you do not refer - some of other species than given in your list.

There are 2 or 3 species of Pt. P.'s coll. not in our set.

Your synopsis of *Bouteloua* is good - but how can you place 1358 Palmer which has mostly 2 spikes, ~~in~~ in the section "spikes, always solitary"?

I am glad you have named *Pappophorum Wrightii* - It is a good sp.

Leptochloa mucronata K. & B. I had supposed was to be left in *Leptochloa*.

I will examine again - Our specimens of *Eriogonos* are much mixed, but your notes will help in straightening them - Still at present I cannot make some numbers fit where you place them.

I expect my pamphlet will be ready in a day or two
I will send, or have sent, copies to you & Dr. Gray.

Truly Yours
Geo. Vasey

I hope to see you at Minneapolis

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being enclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

UNITED STATES

Department of Agriculture,

BUREAU OF BOTANY,

Washington, D. C., Oct 3rd 1884

Prof S. Watson
Dear Sir

Thanks for the type specimens of *Luziola* *Alabamaensis*. Some months ago I sent to Prof. Hackel some of our undetermined *Andropogon*, and I have just received the return package. You will be interested to know the result. Some of these, he wrote, he had already seen in the Candollean Herbarium and had named.

No 2105 & 805 C. Wright, N. Mex. & 406 Ed Greene N. Mex 1880 are *Andropogon cirratus*, Hackel

No 2104 C. Wright, N. Mex. a new sp. *A. Wrightii*, Hackel

✓ 2925 Lemmon & 966 P. S. P. = *A. histiophorus* Kth var. *icensis* Hackel -
= *A. icensis*, Fourn.

✓ 2376 Bouquen = *A. Liebmanni*, Hackel

✓ 3898 C. Wright Cuban Coll. = *A. Cubensis* Hackel

✓ 3901 do do do do = *A. Virginicus* L. = *A. dissitiflorus* Mex.

No 1 Andr. of Wilkes Exp. Organ Mts Brazil = *A. leucostachys*, Kth

Very Yours
Geo. Vasey

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

UNITED STATES

Department of Agriculture.

BUREAU OF BOTANY,

Washington, D. C., Nov 19th 1884.

Prof. G. Watson

My dear Sir

I send you by mail to day a package of grasses, largely of Leumon's Collection. I did not understand that the package which Prof. Thunber sent was to be divided, as I bought the entire lot of Mr. Leumon, and a pretty hard lot it was, much of it being as Thunber said "a mess of hay".

However I am very glad to send you a part, but it contained very little except common species.

I have added a few new species recently made, and add hereto a few notes on some previously sent.

An *Elymus* collected by me at Veta Pass, perhaps marked *Elymus* or *Agropyrum*, with purple long awned spikelets, I have called *Elymus Saundersii*, for our Mr. Saunders, Commissioner for the A.O. Exposition, who sent me west for the grasses.

? A *Stipa* which I collected at Santa Fe, of which I think I sent you a specimen or two, I have called *Stipa Scribneri*.

? A *Festuca* collected at Pea Gulch (pretty old specimen)

I have called *P. confinis*

✓ *Poa annua* var. *stricta*, Prof. Scribner and myself have called *P. Bigelowii* - *Poa stricta* being preoccupied.

✓ A western *Poa* which I think I sent you some time ago from Howell's Coll. as *P. trivialis* var. is *Poa Howellii*, T. S. The R. Mt *Poa* which has been commonly called *P. arctica*, not the *P. cenisia* All = *arctica* R. Br., we have called *Poa reflexa*.

? I think I also sent you some specimens of an *Agropyrum* from Penitentiary Col. which I have called *A. unilaterale*.

It is in Hall's and other collections under 2 or 3 names I believe - the spike is commonly 1 sided.

✓ I sent you some specimens of an "Elymus or Agropyrum" from Orcutt, which I have called *E. Orcuttianus*.

Truly Yours
Geo. Vasey

P.S. I had forgotten to say that the Rosa blanda about which you enquired is not infrequent about here, in open woods or hill sides.

P.S. Can you spare a good specimen of *Astragalus mollissimus* to make a drawing from - If so I will be obliged and will return it soon. We have sent a good specimen

UNITED STATES

Department of Agriculture,

BUREAU OF BOTANY,

Washington, D. C., May 18th 1885.

Prof. Sereno Watson

My dear Sir

I have recently received from
Fort D A Russell Wyoming some specimens of what are
locally called Poison weeds, of which I send you some
specimens numbered 1, 2, 3. No 1 I take to be the
Cynopteris montana var *purpurascens*, Nos 2 & 3 I
suppose also to belong to that genus but am not acquainted
with the species. Indeed I suppose it is not fair to expect
that any body can determine them with much confidence
without the fruit, but perhaps you may be sufficiently
familiar with them to give me the names - if so I shall
be much obliged.

Very truly Yours
Geo. Vasey

P. S. No 1 is said to poison stock, Nos 2 & 3 doubtful poison weeds

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrivel and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

UNITED STATES

Department of Agriculture,

BUREAU OF BOTANY,

Washington, D. C., June 18th 1885.

Prof. Asa Gray
My dear Sir

Dear Prof. A. W. Greely has furnished us with ~~part of~~ a set of the plants collected by him at Fort Conger, Grinnell Land, among which I recognize what I take to be the following species, *Ranunculus nivalis*, *R. affinis*, *Draba alpina*, *D. borealis* Sc. *D. stellata* Jacq. *Vesicaria arctica* RBr. *Cochlearia Damica*? *Chrysanthus pygmaeus*, *Cardamine pratensis*, *Lychnis apetala* L. *L. triflora*, RBr. *Stellaria longipes* var *Edwardsii*, *Cerastium alpinum*, L. *Armenia verna*, *Dryas octopet.* var *integripolia*, *Potentilla nivea* L. *P. emarginata* Bl. ? *Saxifaga flagellaris*, *S. tricuspidata*, *S. cernua*, *S. oppositifolia*, *S. nivalis*, *Epilobium latifolium*, *Erigeron alpinus* L. *Erigeron* Compositae var *tubifer*, *Arnica alpina*, *Taraxacum officinale* var *pallida*, Koch, *Cassiope tetragona*, *Androsace septentrionalis*, *Pedicularis capitata*, *P. Langsdorffii* var *lanceata*, *Oxyria reineckei*, *Polygonum viviparum*, *Salix arctica*, *Luzula hyperborea* RBr. *Juncus biglumis* L. *Eniophorum polystachyon*, *Carex atroata*, *C. vulgaris* var *alpina*, *Alopecurus alpinus*, *Actagnostis latifolia*, *Deshampsia brevifolia*

Festuca subspicata var. *molle*, *Poa cenisia* All.
Poa laxa Hawke, *Festuca subra* var. *Agropyrum violaceum* Horn
Cystopteris fragilis, *Equisetum variegatum* Schle. *E. undulatum*.

Lieut. Grinnell said that he had sent you a set of the same. There are 2 or 3 other than enumerated above which I have not satisfactorily determined, partly because of their immaturity. One of them is I think another *Draba*, and another a *Carex* approaching *C. obtusata*. As I wish to send in a list for publication in the *Gazette* I would be pleased if you would compare the above names with your specimens and correct any errors, or add any other species which may be in your set.

I hear that your health has been much improved by your last winter's journeying, and I am very glad. With my best regards

I am truly Yours
Geo. Vasey

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

UNITED STATES

Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., Nov 3rd 1887.

Prof. George Watson
My dear Sir

I send you to day a small pack-
age containing a specimen of *Tilanthus* which
I cannot make agree with any in Chapman.
It is stated to be extensively naturalized about Coosaw
S.C.

I also send a plant from California which I do
not recognize - I will be much obliged if you
will give me the names of the two if it be not
too much trouble -

Truly Yours
Geo. Vasey

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

UNITED STATES

Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., Feby 16 " 1885 .

Prof. Asa Gray
My dear Sir

Your "Supplements & Indexes" has been received and I wish to thank you for the same. We have now in the field such an excellent corps of botanical collectors, and the field of collecting has been so much extended lately, that the quantity of new discoveries is very surprising. The grasses have shared in the same expansion - during the past 5 or 6 years I think over a hundred ^{additional} species have to be recognized. I intend that you shall have specimens of every such addition wherever it is possible, and hope soon to send you a package, including those of Dr. Palmer's recent collection.

Truly yours
Geo. Vasey

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packagings weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

U. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., e

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stage of the drama in which, in the
course of our work, we are
"acted" to us in a manner
like that of our own. In
this way acting "it" is visible
in our opinion of what occurs in society.
There are now many similar factors to aid
in this type, with the added advantage
that they may be accessible for study
and criticism.

Very busy

and a 17' long whale
and a 17' long whale

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

UNITED STATES

Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., Apr. 21st 1886.

Prof. George Watson
My dear Sir

Your letter of the 16th inst. came to hand yesterday. The Commissioner is absent from the city at present, but on his return I will communicate your thanks for the package of grasses.

The specimen of *Festuca confinis* from Stein Mt. Oregon was a very young one which I added to show all the stages - I have others of the same lot more advanced which are unmistakably *F. confinis*.

I do not understand to what your final remarks relate. I am anxious to conform to all recognized laws of nomenclature. If you will state specifically to what species you refer I will enquire into it, and make any correction necessary.

Truly Yours
Geo. Vasey

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

UNITED STATES

Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., April 28th 1883.

Prof. George Watson

My dear Sir

Your letter of the 23rd inst. is at hand.

So far as I have yet learned the following 3 are in the main new species, & 3 are new species, viz: 78, 158, 159, 160 - In the supplemental list the following, 4, 9, 13, 16, 28, 30, 110^a, 117^a, are also new so far as I know - I have not yet heard from France, respecting the set I sent there.

With reference to the grass for which I have adopted a manuscript name instead of a previously published one, I think the case is that of *Sporobolus Arizonicus*, Thurb., which I had in my first Catalogue as *S. interruptus*. Prof. Scribnr informed me that it was in Thurb's Herbarium as *S. Arizonicus*, and out of respect to manuscript names I adopted that of Prof. Thurb., but it seems that according to "rule" that will not do - So far as I know many of Munro's manuscript names have never been published, but where they exist in public herbaria and have been long known, I think those names should be adopted.

Truly Yours
Geo. Vasey

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

U. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., June 14th 1886.

Prof. George Watson,
My dear Sir

I send you a small package by mail to day, and really hesitate to do so, for I know you must have enough to do without helping dull scholars. But the plants I send are mostly of some difficult orders which you have studied and will probably know at a glance - if they are imperfect and not worth the trouble of naming, then throw them away. I send also 2 sheets of Eatonia which please retain. I want to know if ~~say~~ the specimens of *E. Pennsylvanica* are typical. I also send a Paspalum to be compared with No 350 Drummond. It is much like *P. setaceum* but different as you will see. There is also in Texas a form of *P. setaceum* (No 803 E. Hall) which has pubescent spikelets but wanting the lower glume, and rounder in form. I saw in your Herbarium No 364 Drummond which I think is ticketed by Murs. *P. elatum* Rich. According to my recollection that looks like No 369 E. Palmer's, Indian Terr. Coll. 1868. Will you please examine and let me know. Yours truly

Geo. Vasey

2570 Curtis
Serial No. 712

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

U. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C.,

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1. Represent to the Commissioner and the Committee ~~the~~
1st, The utility and importance of the Herbarium - that it should as fully as possible represent the vegetation of the United States, and the status of Botany in this country - that it is valuable and should receive the support and patronage of the Government.
2. That it was founded upon the collections made in the explorations and Surveys of the Government when it was the custom to employ botanists and other naturalists in connection with such Surveys, but that some 10 years ago natural history work was discontinued on the Surveys in consequence of which all recent additions to the Herbarium have been restricted to purchases of such collections as could be obtained.
3. That the plants now wanted in the Herbarium are mainly such as are found in remote districts ^{or} out of the line of ordinary travel, and can only be obtained by special collection, and that means should be placed at the disposal of this Department to resume the work of botanical explora-

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

U. S. Department of Agriculture,

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Washington, D. C.,

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tion in the interest of the Government Herbarium and in the interests of Science.

4. That all educational institutions, especially the Agricultural Colleges are interested in the advancement of *Botanical* knowledge, and they can be greatly assisted in the matter of Herbarium collections through which can be accomplished by this Department with suitable aid from the Government.

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

U. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., June 23^d 1886.

Prof Asa Gray
My dear Sir

I send you by mail a small package containing 3 or 4 specimens of plants from Alaska with which I am not familiar and would like your determination.

They are part of a small lot (perhaps 20 or 30 species) collected by Mr Chas H Thompson who was with Mr Corwin last year in the exploration of the Kuskokwim River. Mr Thompson says that a larger lot was collected and left in San Francisco and he thinks are lost.

I shall probably know in a few days (when our appropriation bill passes) if I am to be allowed another clerk. As Prof Scribnier's work is to be on the Cryptogams I must have an additional help, and I wish to consult you about a proper person. The salary allowed is only \$1000. I would like a young man who has a good general knowledge of botany and who wishes to make that a specialty. But I wish also if possible that his politics shall be democratic. The Commissioner has been soundly abused both in Congress and out for retaining in office so many Republican employees, and in making this

addition I would prefer to have the other side represented,
other things being equal. I understand that Prof.
F. L. Harvey formerly of the Arkansas Industrial University
is wanting a place, and presume he would accept
this - but I know not what are his politics. You may
however have in mind some person who will fill the
bill, and if so would be glad if you would inform me.

Duly Yours
Geo. Vasey

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

U. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., June 29th 1886.

Prof. Seward Watson

Your letter of the 17th inst. duly rec'd. and I greatly obliged for the names of the specimens sent also for the notes on *Paspalum* & the seeds or spikelets of *P. Lentiginosum*. I had observed the fact in our specimen of Curtis No 3576 that there were some culms (only tops) with pubescent flowers and the spikelets with an occasional ^{extra} lower glume, but I do not think these are the same as 350 Drummond, in which I have noticed no spikelets without this small glume. I find the extra glume frequently on other species, particularly *P. distichum*, and even when constantly present as in the *Dimorphostachys* of Fourcroy, I think should not remove the plant from *Paspalum*.

I doubt if I can give you a full list of the purchasers of Palmer's sets - We had one - 1 to Philadelphia, 1 to Caubey, 1 to J. Donnell Smith, 1 to Columbia College N.Y. I think there was 1 or 2 more sold beside those sent to Europe - Yes, I think 1 set to C. G. Pringle. I have had no information from Dr Palmer since he left. There is a letter here ~~for~~ from him from Europe - the stamps say Helvetia & Valais.

Prof. Brutton writes that he has not enough tickets for his

set and want, 200 more - If you have any to
spare please send him some -

I have a letter from Dr. Gray which I will answer
in a day or two.

Truly Yours
Geo. Vasey

1. Knob
2. Ropel
3. Phil. Acad
4. Carley
5. Smith
6. Zornig Herb.
7. Wash
8. Pringle

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U. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., July 26th 1886

Prof. S. Watson
My dear Sir

I sent you yesterday by mail a small package of plants, some for your herbarium and some for confirmation or correction. I do not remember whether I have written you Prof. Hackel's remarks concerning the new species of grasses of Palmer's Alex Collection. He says "I am convinced that all the species you named are really new ones or at least scarcely referible to Fournier's species, which it is often difficult to recognize from the short diagnosis - I doubt whether Mr. Casson may have the leisure to answer your questions; while administering his great rural properties, he seldom comes to Paris." He makes a correction of one of the species of *Audropogon*, the No 7 Palmer, which I called *A. circinatus* Hack; he says it is *A. Schottii*, Rupr. var. *asperiglumis* Hack. I have just sent to the Bulletin a synopsis of the genus *Parpaleum* which embodies about all I know of the U. S. species, leaving out synonymy mainly, and making the descriptions as short as possible.

I expect to leave in a day or two for a long trip, to investigate the grasses of the said districts, and shall probably be absent for 6 weeks.

The office of Assistant Botanist will remain open until my return, and in the meantime if you or Dr. Gray can recommend a good man for the place I shall be much pleased.

Truly Yours
Geo. Vasey

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

A. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., Nov 30th 1886.

Prof. S. Watson
My dear Sir

I am glad to learn that you are again at home in Cambridge. I had a letter from Dr. Palmer about a month ago, He said he did not expect to be back before the last of November - I am now expecting his return every day. I had a letter from Dr. Maximowicz dated Oct. 20. saying that he had rec'd a package of plants from me also one from Cambridge, and a full set of Pringle's Chihuahuan Plants, of last year - and as he had received no letter from Mr. Pringle he did not know whether it was from him and to be paid for, or from the Department. He does not say anything about Dr. Palmer's set. According to the books of the Sm. Exchange, these were forwarded Apr. 24 ult. to Dr. Regel 1 package from Harvard, 1 from Dept. Agriculture, and 2 from Dr. Ed. Palmer - and there is no account of any from Mr. Pringle - I have written to Dr. Maximowicz to this effect.

Truly Yours
Geo. Vasey

Washington Oct 21st 87

Dr. Asa Gray
My dear Sir

You have I presume learned of my effort at the meeting of the A. A. S. to interest the botanical Club in the Herbarium in an effort to obtain better opportunity for enlargement and improvement. A committee was appointed of which you was made Chairman, much to my gratification. The purpose was to present a Memorial to the Commissioner and the Agricultural Committee representing the utility of the Herbarium and the desirability and importance of suitable appropriations to make it what it should be. I have asked in my estimates for the coming year for an additional assistant, and for \$10,000 for local ~~exp~~ and other agents and collectors and special workers - I think that if an appeal is made in the direction I have indicated that the appropriations may be secured.

Now, with respect to the Im. Inst. If there should be a decision to remove the Herbarium to that Inst., and room and workers should be provided, there would still be the same need of botanical exploration - and if that is the best channel for the work I would not object - although it seems to me that under present circumstances the Department of Agriculture is the best agency.

I enclose a few suggestions, as to what I think an appeal should show - Doubtless you can improve them provided that you approve of the measure at all.

I want to come to Harvard if I can to make some investigations, but do not yet know if I can do so.

I have heard nothing from Paris. I suppose they were perhaps annoyed at my application and consider me ~~a~~ grass crazy. I have a copy of Fournier's *Grasses of Mexico*, but it is very unsatisfactory from too short and imperfect descriptions, ~~and~~ (only of new species), and from the poor analytic tables.

In our own country, Prof. Tracy ~~especially~~ of the Miss. University spent 6 weeks in collecting and studying the grasses of Arizona, Nevada and Utah. I was not able to do this personally on account of ^{the} severe and protracted sickness of my wife. My own health was poor during the spring and summer, but I am much better now. In the arid parts of Texas, Mr G. C. Neally has spent 3 or 4 months in ~~the~~ botanical collections, chiefly of grasses.

As to the disturbing matter of which I wrote you last spring there has been a cessation. I presume there will be no more trouble in that direction.

I sent the "pea" and a few other plants yesterday. I have not found the letter which accompanied the seeds sent from Mo. But it is quite likely to be an introduction.

Truly Yours Geo. Vasey

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

U. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., Nov 11 1887.

Prof. Serrano Watson
My dear Sir

Your postal of the 8th inst. is at hand. I cannot say with any certainty where Dr. Palmer collected in 1872, but I think it was in S. Arizona. The *Vesicaria* of which you speak was from seed brought by him. I find in Herbarium also specimens of that and another species collected by him and ticketed Arizona. I send you a package of these for examination, and also several specimens for confirmation or change of name.

In 1868-9 Dr. Palmer collected in Sonora.

Truly Yours
Geo. Vasey

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

U. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., March 28th 1888.

Prof. S. S. Watson
My dear Sir,

Yours of the 28th has been duly recd.
It appears to me that inasmuch as the other members of the Committee have signed the Report of which I sent you a copy, it would be better that you should also do so in order to have a practical agreement. If there is any thing objectionable in the Report I would be glad if you would frankly say so.

I return you a copy of the Report which perhaps in view of my explanation you may be disposed to sign.

A set of Dr. Palmer's plants will be ready to send you to-morrow I think —

Truly Yours
Geo. Vasey

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

U. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., April 1888.

Prof. George Watson
My dear Sir

Your letter of the 9th inst is received.

With reference to the report of the Committee, the clause to which you refer ~~is~~ is obscure and needs explanation. A notice was inserted in the "Bulletin" for February giving some outline of a plan and asking for communications &c.

A considerable number of replies or communications were received (addressed to me) and it is to these that the clause alludes to refer - The following persons are among those who wrote, Harvey Thomson, Hastings College, Nebraska, H. A. Evans, Harvard Female College, Lancaster Mass. Prof. C. S. Sheldon State Normal School Mo. F. E. McDonald Peoria Ill. Dr. Zoltz Akron Ohio, C. G. Lloyd, Cincinnati Ohio -

As to the Smithsonian Report, of which you speak I think I wrote to the Sec. Inst. enquiring for them but received no reply.

D. Palmer's bundle of *Anemone* is rec'd. I thought they were all alike but he said they varied so much in appearance where they grow that I thought he had better send all to you.

Truly Yours
Geo. Vasey

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, poisonous, medicinal, or useful.

U. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., May 3^d 1888.

Prof. G. Watson

My dear Sir,

Your letter of the 1st inst. is received.

I am very glad you have written, though I am much surprised at the contents of the letter. The copy of Rules I sent to you as to the other members of the Committee for your approval or correction. I expected of course, that if the paper was objectionable to you in any way you would say so. Perhaps you are right that it is not the Committee's duty to "pretend" to organize the Club - but strange that the other members had not thought the same.

I was taken aback also by your copy of the article for the Gazette. I think it would have been more friendly on your part if you had first written to me. Mr. Crozier showed me the article before he sent it to the Gazette, but I was very busy and perhaps did not give it proper consideration - One or two sentences are somewhat ambiguous and perhaps require some explanation - which I will try to give.

We have for many years made extensive distributions through the mails free, chiefly to the Agr. Colleges, but also to Scientific Societies and to specialists, without any question as to the rightfulness of the matter, and have sometimes furnished parties with the means of sending packages to us free also, when it was an advantage to the Herbarium to do so. It was Mr.

Crozier's idea that if the exchange could be made advantageous to the Herbarium suitable packages could be transmitted in the same way. But the matter had not been determined upon and is referred to as possible "in this case". Of course there would be a proper limit to such a measure.

Your statement that such a use of the funds of the Department would be dishonorable and dishonest, is a pretty strong one and I think made without due consideration - The Department has a right to send and does send to all parts of the country funds for various things which it wants in the performance of its legitimate functions, and one of these functions as I conceive it is the building up and improvement of the Herbarium. This is no private business - the Herbarium belongs to the Government of the United States and is a valuable property - and I hold that it is the duty of the Government to foster it, just as it fosters other scientific interests at Washington. But it is not my purpose to do anything in this matter to compromise the "Botanical Club". The Club shall have the chance to speak for itself.

To show you that I have no personal interest in this matter I will say that I turned ~~in~~ to the Herbarium, when I came here, and since, thousands of my botanical specimens, and do not now own a single one and do not expect to. I am glad that you wrote your mind plainly and freely to me, but I hope that upon reviewing the matter you may feel that some imputations were hardly deserved.

Faithfully Yours G. Vasey

P. S. Upon reading the above communication I observe that I may not have been sufficiently definite on one point. Mr Crozier and myself in talking about the exchange were considering whether to charge a fee for membership or to give the alternative of a percentage of the Specimens sent in ^{for the Herbarium} as compensation for the trouble &c. Mr Croziers resignation to take a position in the Iowa Ag. Experiment Station interrupted or diverted my thoughts from the subject. If upon reading this letter ^{or consent} you prefer to withdraw your communication to the Gazette it will save some unnecessary ^{and unpleasant} discussion.

G. V.

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

U. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., May 16. 1888.

Prof. George Watson
My dear Sir

Your letter of the 15th inst is received.

The "Rules" will be published not as from the Committee. I accept your statement that your criticisms were not offered in an unfriendly spirit. I sent Mr Coulter an article to be published in connection with yours, and he said it explained the matter satisfactorily and he would publish it in connection with your article. He said nothing of any option to withdraw your article. Of course I would rather it were not published, for I think it casts imputations upon me that are undeserved, but I have no authority to ask Prof Coulter to suppress it. I could go still more minutely into an explanation but do not care to spend time upon it.

Truly Yours
Geo. Vasey

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

U. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., May 17 1888.

Prof. Steven Watson
My dear Sir

My short and hasty written note of yesterday, upon later consideration I fear may show some irritability which I did not particularly feel. I thought a further discussion of the matter might be a waste of your time as well as of mine. If I know it to be desirable to you I shall feel pleased to make further explanation. But I may say that although the subject of the discussion was under consideration at the time Mr. Crozier wrote his article, yet I soon came to the conclusion that it would not be best to propose to furnish frank, as the privilege might be abused, and the saving ^{to the parties concerned} would be a small consideration. Mr. Crozier left here the 1st inst. to take a position in the Iowa Ag. Experiment Station.

Truly Yours
Geo. Vasey

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Pack-ages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pesti-forous, medicinal, or useful.

U. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., June 15 1888.

Prof. S. W. Watson
My dear Sir

A day or two since I sent you a small parcel of plants, which I do not readily identify, and which I will thank you to look over and name if, not too much trouble to you. One of them was from Dr. Palmer's Mexican Collection, not in the sets, and without flowers or fruit, a small tree the bark of which Dr. Palmer said was exported to Europe as a tanning material. It has a Rutaceous look. The others are from N. Carolina. Keep what you wish and return the balance.

Truly Yours,
Geo. Vasey

P.S. I have rec' orders for Dr. Palmer's plants from Kew, British Museum & Austria. Dr. Palmer finding that it would be better to go to Guatemala in the fall, concluded to botanize in California until September and then go to G.

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Pack- ages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pesti- forous, medicinal, or useful.

U. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., Augt 29 1885.

Prof. George Watson

My dear Sir

Your letter of the 4th inst. and the recent one containing the list of Dr. Palmer's plants came to hand, the first during my absence at the "Week." I am having the list duplicated.

The missing numbers are duplicate numbers of several grasses which I will try to hunt up; at least most of them are so. No 505 is *Stipa California* n. sp. of which there was not enough for distribution in the sets. A letter recently received from Dr. Palmer stated that he was at San Diego, trying to recuperate his health. In September he was to go from Yuma down to the head of the ~~the~~ Gulf to make some collections of odds & ends as he called them. Have just received a box of plants from him, but have had no time to examine them.

Very Yours,
Geo. Vasey

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

U. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., Sept 4th 1888.

Prof. Gray Watson

My dear Sir

I find most of the black numbers of your list as follows: 46 = 51; 54 = 348; 55 = 268; 67 probably an *Asteridae* but I do not find it; 79 = 45. 160 = 165. 192 *Leptochloa mucronata* Kth 194 = 162 195 = 204 196 = 204 197 = 273 198 = 270 199 = 274 = 350 205 = 328 246 = 308; 303 *Stipa California* V. n. sp. 206 *Chloris elegans* Kth 507 = 162. 190 = 159 191 = 210 192 = 192.

I have received Palmar's collection in S. Cal. and will send you everything peculiar. Dr. Palmar writes me that Dr. Greene is very anxious to have a set to work up. He seems to think he has a patent right on all Calif. plants. I should think he is verging toward crazy on the subject.

The plants mostly look familiar, but some show variations or peculiarities. My boys are helping me work them up.

Truly Yours
Geo. Vasey

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

U. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., Nov 14 1888.

Prof. G. Watson
My dear Sir

Yours of the 12" containing names
of some of D. Palmer's plants is duly received.
I am having a few lists struck off by the type writer.
Of no 341 I have no remembrance, but will examine
our set to ascertain if it is there.

Truly Yours,
Geo. Kasey

P. S. Would you be willing to furnish descriptions of the new species
of Palmer's Cal. collection for publication in the Bot. Gazette? or
or would you prefer to have them first described in the Proc. Am.
Acad. I was thinking of writing some notes on the Coll.
for publication in the Gazette. A second box of his plants
is en route and I hope will be here soon.

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

U. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., Nov 21st 1888.

Mr. Sereno Watson
My dear Sir,

Your letter of the 19th inst. is at hand.

You enquire about certain plants of Dr. Palmer's California Collection "which he sent me". The plants were sent to the Department of Agriculture and not from Dr. Palmer. We took all his collection, except 5 sets. The collection was a small one - less than 250 species - many only in single specimens. I sent you specimens of all that I thought would be particularly interesting to you, ~~you~~ asking you to name such as were new. The *Collomia* about which you enquire is in the collection, and I called it *C. Torreyi*. Probably if it had shown good flowers I should have detected a difference. It is in nearly all the specimens (of which I send you some to day) past flowering. In the other features of the plant it seems hardly distinguishable from *C. Torreyi*. The 5 sets to which I alluded are taken by Mr. Smith, Caaby, Greene, Britton &c., and number about 200 speci. The common things I thought you would not care for. As to the localities for the other numbers; of no 168 Dr. Palmer says "it grows on the lower parts of slopes and ridges, very scattered."

bloom yellow, has rather strong scent like that of *Hermippea*." This was in Long Meadow Tulare Co.

of 176 we say, "grows at the drier edges of low wet places, bloom lower part plum color, upper orange color."

of 185 - he says, "shady slopes, bloom dirty white"

All collected in Long Meadow.

Truly yours
G. Vasey

P.S. I sent the specimens to you so that you might give the names, notwithstanding Mr Green's earnest solicitations that they should be sent to him first.

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

A. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., Jan 23 1889.

Prof. S. Watson
Dear Sir

Yours of the 22^d is rec'd. The specimen which you enclose I recognize; at the time of its collection I thought that it was the *A. Cabanisii*, and sent it to Prof. Hackel for inquiry. He said it was a good variety of *A. Scoparius*, the var. multiramea.

We have 2 or 3 specimens of Chapman's *A. maritimus*, and they present a very striking appearance, particularly in the large flowering tracts. I think it is about as good a species as most of the allied ones. If the *Andropogon argenteus* D. C. is not now employed (having been reduced to *Saccardoidea*) I do not see why Elliott's name should not be retained for that, now called *A. argyreus* - it being earlier than Shultz's name. Prof Hackel himself now ^{restores} ~~restores~~ the old name to *A. Virginicus*. With you I agree, that we should follow B. H. in the main.

Truly Yours
Geo. Vasey

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U. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., Jan'y 30th 1889.

Prof. S. W. Watson
My dear Sir

Yours of the 28th is at hand. We have a good sheet of the *Muhlenbergia ambigua* *Zorn* sp. Collected by Chat A. Geyer, Sept 20th 1839. Stony banks of Lake Okanagan, Sioux Country. I have examined a good number of spikelets and find no pedicel or rudiment of a 2nd flower. I have occasionally seen a second flower ^{some} in *Muhlenbergias* I think, but they must be very rare. A second flower (perfect) occasionally occurs in some species of *Sporobolus*, and a minute pedicel sometimes in *Aristis*. You say that is the only character which separates *Deyersia* from *Calamagrostis*. I have never been satisfied with Bentham's disposition of those 2 genera, and especially not with his removal of our *C. longifolia* & *brachypila* to *Ammophila*, although I followed it in my Catalogue. I have thought a good deal about the genera and have come to the conclusion that the genus *Calamagrostis* should be restored, with *Deyersia* as a section, and Dr. Gray's *Calamovilfa* as another section, this to include the *C. longifolia*, *C. brachypila* and *C. Curtissii*. The name *Calamovilfa* is a good one as the flowers are nearly those of *Vilfa* but larger. I have intended to publish a note on this matter as soon as possible.

(over)

Truly Yours Geo. Vasey

The genus *Amnophila* embracing *A. arundinacea* & *A. baltica*
is I think sufficiently distinct as a genus from the section
Calamovilfa.

Our specimen of *M. ambigua* can hardly be separated from
M. sylvatica except as a variety which I would call var. *ambigua*.
It has a denser panicle, and is more erect in habit. The awns
are perhaps a little longer.

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

U. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., Feby 4th 1889.

Mr. Pereno Watson

Dear Sir

Your letter of the 1st inst, is duly received.

The copies of your Contributions have not yet been received. Probably they will soon come. Dr. Palmer is now in Southern California with headquarters in San Diego. He is now employed by the Department as a collector for this division. He will not go to Guatemala as he proposed.

Your specimen of *M. setiglumis* from Nevada is much smaller than that of *M. ambigua*, with shorter, stiffer ^{& denser} panicle, and the flowers, i.e. the flowering plumes, have shorter awns — otherwise there is no particular difference —

I suppose I could give you some information respecting additions and changes to be made to the Manual, but I am too modest to volunteer them.

Truly Yours
Geo. Vasey

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

A. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., May 18th 1889.

Mr. George Watson

Dear Sir

I send you herewith some seeds of a new species of *Distichlis*, (*D. Palmeri*) recently collected by Dr. Palmer near the head of the Gulf of California.

The low, muddy river banks for 40 or 50 miles are covered by the grass, and the grain is annually collected by the Cocopas Indians and furnishes a standard article of food for their subsistence. I will have figures drawn and will publish the description soon. I will also soon send you ^{the grass and} many good things which Dr. P. is collecting. He found *Acromobroma* in the same region.

I find we are lacking your "Contributions to 15" If you can spare a copy will be much obliged.

Truly Yours
Geo. Vasey

P.S. The grain has been exposed to fire by the Indians in order to get it out, but I find that a part at least germinates.

I think an interesting paper may be made respecting this grass, for the Garden & Forest.

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Pack-ages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

U. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., June 10 1889.

Prof. George Watson

My dear Sir,

Your letter of the 8th is at hand.

Paspalum Digitaria gave me much trouble. As you say *P. Michauxianum* ^{Kth and} *Digitaria paspaloides* Poir, are evidently based on *Digitaria paspaloides* Mich. which I think is *Paspalum distichum* for the following reasons - 1st. The description fits to that, "*spicis binis, subuncialis*", 2^d. We have specimens from Herb. Gay, ticketed *Digitaria paspaloides* Mich., which are *P. distichum*. This shows how Michaux's plant was regarded in Europe; 3^d. In the Meissner Collection, Herb. Columbia Coll., are specimens ticketed - *Paspalum Michauxianum* Kth
Digitaria paspaloides Mich.

In civitate Missouri

leg b Frank. 1837

These specimens are *Paspalum distichum*.

Mr Elliott's *Milium paspaloides* judging from the description and the very poor figure may be *P. Digitaria* of Chapman, although he refers to Michaux's *D. paspaloides* as synonymous.

Doeell in his *Gramineae for the Brazilian Flora* quotes

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

U. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C.,

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and *Pasp. Michauxianum* ^{Kth}

Digitaria paspaloides, Walter. *Milium paspalodes* Ell. &c to *Paspalum vaginatum* Linnaeus & *Pasp* But he also refers *Milium distichium* Muhl. and doubtfully, *Paspalum distichium* Linnaeus to the same. On the other hand Gris. in *Fl. W. Indis* refers *P. Michauxianum* ^{P. Digitaria} Poir. and *P. platycarpe* Poir. to *P. compressum* Nees. Kunth refers *Pasp.* *compressum* Nees. to *P. platycarpe* Poir.

Triniius fig. 115 as *Paspalum obtusipolium* Raddi appears to be pretty nearly our plant - that is referred to *Pasp. furcatum* Thunb. by Doell. Now out of this mass of contradictory evidence what can we get? I don't know, but would like to have an opportunity of more thorough study in European herbaria. Perhaps you may find among your material something decisive.

Truly Yours
Geo. Vasey

P. S. Of course if *Pasp. Michauxianum* Kth is *P. Digitaria* Poir. Poiret's name is I suppose the older

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

U. S. Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., June 8th 1889.

Prof. George Watson

My dear Dr,

Your letter of the 6th is at hand.

With reference to the grass, I wrote that it differs from *Distichlis* in having two of the lower flowering glumes empty, in addition to the ordinary pair - and in the disarticulation of the spikelets both male and female.

You will notice in B & H. description of *Distichlis*, that only the two lower glumes are empty - and the rachilla in spikelets continuous, in ♀ inter flores articulata - In the specimen I have this disarticulation of the male spikelets is not conspicuous, only a few or part of the florets appearing to have separated, but perhaps when fully mature they may all do so. I send you a package herewith, which I wish you would examine. My first thought was that it was a *Distichlis*, for in habit it is clearly there, but in most of its technical characters it is *Uniola*. As I have said it seems to unite the two genera. What would you do in such a case? If one genus has to drop out it must be *Distichlis* as that is latest. I will send a technical description to go with the popular one - I also send a package of specimens.

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

U. S. Department of Agriculture,

BOTANICAL DIVISION,

Washington, D. C., Sept 20 1889.

Prof. S. Watson
My dear Sir

Herewith I enclose postal note for the amount of charges on *Cossou's Flora Atlantica* - on which you have had trouble - It seems as if this scientific work, should not be subject to such extravagant charges.

I have had an interesting trip across the continent, but not at a good part of the year for botanical collections.

Dr Palmer is still at San Diego, where he has been sick since July 1. He is improving and hopes to be able to resume work soon. We are considering the question of sending him to Australia for a year to collect plants, seeds, grasses &c

I saw Mr & Mrs Brandege at San Francisco. Did not see Mr Greene who was in the Mountains of Northern California.

Mr Brandege has made a large collection in Lower California.

I saw W. C. R. Orcutt who has done some botanical work.

We have not yet quite completed the examination of Dr Palmer's Lower California plants.

Truly Yours
Geo. Vasey

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Pack-ages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pesti-ferous, medicinal, or useful.

U. S. Department of Agriculture,

BOTANICAL DIVISION,

Washington, D. C., Jan. 24 1890.

Dr. Seward Watson,
Cambridge, Mass.

Dear Sir:

I shall be glad to let you have a set of the Bolander Mosses.

We have never succeeded in getting the second volume of *Musci Alleghaniensis*, nor *Austin's Hepaticae Bor.-Amer.* Can you put us on the track of either?

Do not hurry about making a return for the mosses.

Yours truly, G. W. Vasey
Botanist.

U. S. Department of Agriculture,

Washington, D. C., March 19th, 1890.

Dr. Sereno Watson,

Cambridge, Mass.

Dear Sir:

I mail you to-day, for the Harvard University Herbarium a set of 54 species of mosses collected in California by Bolander.

I shall be glad to get if possible a set of Wright's Cuban mosses, whenever they are worked up, for the National Herbarium.

Yours truly,

Geo. Vasey
Botanist.

U. S. Department of Agriculture,

Washington, D. C., July, 10th, 1890.

Dr. Sereno Watson,

Cambridge, Mass.

Dear Sir:

I send to you to-day a *Hymenocallis*, collected at Manatee, Florida, by Mr. J. H. Simpson.

Please keep the specimen and tell me if it is *H. Palmeri*.

Yours truly,

Geo. Vasey
Botanist.

U. S. Department of Agriculture,

Washington, D. C., March 24th, 1890.

Mr. Sereno Watson,

Cambridge, Mass.

Dear Sir:

I shall be glad to get a set of Wright's Hepaticae.

Yours truly,

Jos. Vasey

Botanist.

In sending specimens of plants for investigation it is desirable to include the entire plant; if it is too large, portions showing leaves, flowers, and fruit are sufficient. It is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts may shrink and break so as to be hardly recognizable. When dried plants are sent they should be protected from breakage in the mail by being enclosed in sheets of paper between pieces of stiff pasteboard. If specimens are to be sent fresh, moisten them slightly and pack them tightly in a box or in a bundle, wrapping them in heavy paper. Packages weighing less than four pounds can be sent by mail at the rate of one cent per two ounces. Write the name of the sender on the outside. In the letter accompanying the specimens state where each plant was collected, the date, the name of the collector, and add any other notes in regard to the economic value of the plant.

U. S. Department of Agriculture,

Botanical Division,

Washington, D. C., April 2^d 1891.

Mr. Leroy Watson

My dear Sir

We are having under consideration the sending of a collecting party into Washington & Montana, as I think I stated to you when I was at Cambridge.

I am informed that Mr. Robinson has been obliged to drop work with you for a time at least, and would like to go on this expedition. The Asst. Secretary Mr. Willets inquired of me if Mr. Robinson had done field work. Of course I could not say, but I have no doubt that he has, and that even if he had not, his experience with botanical specimens has been such that he knows full well, what good specimens are and how to make them. Mr. Willets suggested that I write to you get your recommendation of Mr. Robinson, and that is the cause of this present letter. We may send an entomologist and a mammologist with the party and it may be necessary to ~~not~~ appoint one of the number in general charge as to outfit, horses, provisions &c, and some one who has had experience in field work of this kind would have an advantage.

Please reply

Yours truly
Geo. Vasey

In sending specimens of plants for investigation it is desirable to include the entire plant; if it is too large, portions showing leaves, flowers, and fruit are sufficient. It is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts may shrink and break so as to be hardly recognizable. When dried plants are sent they should be protected from breakage in the mail by being inclosed in sheets of paper between pieces of stiff pasteboard. If specimens are to be sent fresh, moisten them slightly and pack them tightly in a box or in a bundle, wrapping them in heavy paper. Write the name of the sender on the outside. In the letter accompanying the specimens state where each plant was collected, the date, the name of the collector, and add any other notes in regard to the economic value of the plant.

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United States Department of Agriculture,

Botanical Division,

Washington, D. C., May 8th 1891.

Prof. S. Watson

My dear Sir

Your note of the 6th inst is at hand. The package came in yesterday from the Sm. Inst. Many of the specimens will be useful to our Herb., and I thank you for them.

Prof. Galley Director of the Agr. Expt. Station, Tucson Arizona has written to me asking me to recommend some man who is qualified to take charge of their botanical work. "We do not want simply a good botanist, but a man who has book qualifications in addition to his technical training, and can make himself of value here in the Territory" — The College makes its opening next fall, the beginning will probably be small, but the work will grow. I do not know whether the place would suit Mr. Robinson or not, but you may mention it to him. I expect they are willing to pay \$2000. per year.

Truly yours
Geo. Vasey

In sending specimens of plants for investigation it is desirable to include the entire plant; if it is too large, portions showing leaves, flowers, and fruit are sufficient. It is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts may shrink and break so as to be hardly recognizable. When dried plants are sent they should be protected from breakage in the mail by being inclosed in sheets of paper between pieces of stiff pasteboard. If specimens are to be sent fresh, moisten them slightly and pack them tightly in a box or in a bundle, wrapping them in heavy paper. Write the name of the sender on the outside. In the letter accompanying the specimens state where each plant was collected, the date, the name of the collector, and add any other notes in regard to the economic value of the plant.

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United States Department of Agriculture,

Botanical Division,

Washington, D. C., July 2 1891.

Prof. George Watson
My dear Sir,

Yours of the 30th ult. has been duly rec'd.
In reference to your inquiry - we received through the Sm.
Institution in Feb'y 1890 a package of about 25 species
of plants from Mr. Duges which were duly acknowledged.
Nothing has since been received from him, and I have no
knowledge or recollection of any corn received from him.
The Smithsonian Institution keeps a record of all its ac-
cessions, and even the smallest thing that is sent here is
numbered and reported on in full. I may be able to get
some information on the subject of Mexican corn from Dr.
Palmer, who is unwell and has not been here for several days.

Truly Yours
Geo. Vasey

In sending specimens of plants for investigation it is desirable to include the entire plant; if it is too large, portions showing the leaves, flowers, and fruit are sufficient. It is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts may shrink and break so as to be hardly recognizable. When dried plants are sent they should be protected from breakage in the mail by being inclosed in sheets of paper between pieces of stiff pasteboard. If specimens are to be sent fresh, moisten them slightly and pack them tightly in a box or in a bundle, wrapping them in heavy paper. Write the name of the sender on the outside. In the letter accompanying the specimens state where each plant was collected, the date, the name of the collector, and add any other notes in regard to the economic value of the plant.

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United States Department of Agriculture,

Botanical Division,

Washington, D. C., Sept 1 1891.

Prof. S. Watson
My dear Sir

We yesterday received from the Smithsonian Institution a package of plants and seeds, sent from Prof. Duges. His letter accompanying them is dated in June last. Where the packages have been in the meantime I do not know. But what will interest you is the presence of specimens of Maiz.

One much broken specimen of what I take to be your new species which he says is called "mais de coyote". The ears are ^{much} as described by you, but some of the ears are 12 and one 16 rows. The 4 rows flattish ones however, do not show any tendency to divide. With this is another package called "mais de coyote" from Silao, state of Guanajuato, which is clearly a stalk of Teosinte, with the single row of triangular black seeds. Of this he says it is said to be "the original of the cultivated Maiz." I have had a translation of his letter made and send you a copy, and if you wish any of the specimens I will send them to you. Truly Yours Geo. Vasey

In sending specimens of plants for investigation it is desirable to include the entire plant; if it is too large, portions showing the leaves, flowers, and fruit are sufficient. It is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts may shrink and break so as to be hardly recognizable. When dried plants are sent they should be protected from breakage in the mail by being inclosed in sheets of paper between pieces of stiff pasteboard. If specimens are to be sent fresh, moisten them slightly and pack them tightly in a box or in a bundle, wrapping them in heavy paper. Write the name of the sender on the outside. In the letter accompanying the specimens state where each plant was collected, the date, the name of the collector, and add any other notes in regard to the economic value of the plant.

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United States Department of Agriculture,

Botanical Division,

Washington, D. C., Sept 5th 1891.

Prof. S. Watson

My dear Sir

I send you to day by mail a box containing all the corn specimens of Mr. Days from which you can take a portion if desired, and return the box. I also inclose some of our contributions to which you ask for. We have also requested the other divisions to send their papers.

We are sending quite a number of Dr. Gray's, and your Contributions, as follows:

D. Gray's in Vols, 1, 2, 3, 4, 5, 6, 7 and the following parts of 8,
pages 145 to 200, & 243 to 296.

D. Watson's ~~that~~ No 1, 8, 12.

Please send us as many of these as possible and a bill of same.

I enclose Mr. Days letter. It may not have been well translated.

Truly Yours
Geo. Vasey

P. S. I suppose you know that Miss Clark took the C. S. Examination for Botanical Clerk and passed highest of competitors, and has been Commissioned.

In sending specimens of plants for investigation it is desirable to include the entire plant; if it is too large, portions showing leaves, flowers, and fruit are sufficient. It is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts may shrink and break so as to be hardly recognizable. When dried plants are sent they should be protected from breakage in the mail by being inclosed in sheets of paper between pieces of stiff pasteboard. If specimens are to be sent fresh, moisten them slightly and pack them tightly in a box or in a bundle, wrapping them in heavy paper. Write the name of the sender on the outside. In the letter accompanying the specimens state where each plant was collected, the date, the name of the collector, and add any other notes in regard to the economic value of the plant.

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United States Department of Agriculture,

Botanical Division,

Washington, D. C., Sept 24th 1891.

Prof. George Watson
My dear Sir

Yours of the 21st inst. has been duly received. In reply I will say that I would be very glad to receive the duplicate specimens of Munro's Grasses.

I presume that by this time you have distributed Prof. Thunber's Grasses. There are a few species of his of which I would like very much to see the specimens, as *Atropis California*, *A. tenuifolia*, *A. pauciflora* and *A. scabrella*. Also I would like to see specimens of *Agrostis rivescens* HBK. (California specimen), the several varieties of *A. exarata*, (*grandis*, *aspinifolia*, *pallens*, *Californica*, *microphylla*) *A. Scouleri* & *A. exigua*. Also *Eragrostis alba* Presl.

If you could loan me specimens of the above I would be much obliged and would return them safely.

Truly yours
Geo. Vasey

In sending specimens of plants for investigation it is desirable to include the entire plant; if it is too large, portions showing leaves, flowers, and fruit are sufficient. It is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts may shrink and break so as to be hardly recognizable. When dried plants are sent they should be protected from breakage in the mail by being inclosed in sheets of paper between pieces of stiff pasteboard. If specimens are to be sent fresh, moisten them slightly and pack them tightly in a box or in a bundle, wrapping them in heavy paper. Write the name of the sender on the outside. In the letter accompanying the specimens state where each plant was collected, the date, the name of the collector, and add any other notes in regard to the economic value of the plant.

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United States Department of Agriculture,

Botanical Division,

Washington, D. C., Oct 6 1891.

Prof. Steven Watson
My dear Sir

I am very much obliged to you for your trouble in copying Brongniart's description of *Spartina densiflora*. I have not yet had it translated, but I notice some points which do not agree with the new one or the newly observed one. For instance the outer glume is described as half as long the upper one &c. I would hardly expect the Chilean plant to have such a range as would be necessary to connect ours, and perhaps it may be necessary to consult Chilean specimens in order to settle the point. I had forgotten that I sent out some specimens as *S. cylindrica*, which name I at first thought to give it. But no new name is now needed, evidently.

Yours truly
Geo. K.敢

In sending specimens of plants for investigation it is desirable to include the entire plant; if it is too large, portions showing leaves, flowers, and fruit are sufficient. It is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts may shrink and break so as to be hardly recognizable. When dried plants are sent they should be protected from breakage in the mail by being inclosed in sheets of paper between pieces of stiff pasteboard. If specimens are to be sent fresh, moisten them slightly and pack them tightly in a box or in a bundle, wrapping them in heavy paper. Write the name of the sender on the outside. In the letter accompanying the specimens state where each plant was collected, the date, the name of the collector, and add any other notes in regard to the economic value of the plant.

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United States Department of Agriculture,

Botanical Division,

Washington, D. C., Oct. 26 1891.

Prof. S. S. Watson
My dear Sir

Your letter of the 23rd inst. containing a specimen of grass is at hand. The grass is diseased, or affected with a smut. Most of the spikelets are affected, or at least the floral glumes which are elongated to 3 or 4 times long and filled with the black smut. There are a few spikelets unaffected, and they are, I feel sure, those of *Agrostis alba* or *vulgaris*.

I would be very glad if you could soon select out the specimens I asked for from Dr. Thunberg's Collection. I am now working over the California grasses particularly *Agrostis*, and wish to see all the rare forms. I know you can hardly find time, and do not wish to put you to much inconvenience.

Truly Yours
Geo. Vasey

P. S. I have had some spikelets examined microscopically, and what I took for smut proves to be a mass of nematoid worms. I can suppose that the panicles have been subjected to dampness near the ground, and there received the ova, but it is only conjecture.

In sending specimens of plants for investigation it is desirable to include the entire plant; if it is too large, portions showing leaves, flowers, and fruit are sufficient. It is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts may shrink and break so as to be hardly recognizable. When dried plants are sent they should be protected from breakage in the mail by being inclosed in sheets of paper between pieces of stiff pasteboard. If specimens are to be sent fresh, moisten them slightly and pack them tightly in a box or in a bundle, wrapping them in heavy paper. Write the name of the sender on the outside. In the letter accompanying the specimens state where each plant was collected, the date, the name of the collector, and add any other notes in regard to the economic value of the plant.

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United States Department of Agriculture,

Botanical Division,

Washington, D. C., Sept 29 1891.

Prof. Steven Watson
My dear Sir

Your letter of the 26th inst is rec'd.

The packages have not yet come to hand, but I suppose will very soon. I thank you in advance for them and also for the additional Australian ones.

Yes, I would like very much to see Dr Thunberg's Manuscript of Gram. Mex. Boundary. Please send it with the specimens I have asked for.

I sent you a specimen of *Spartina* some days ago, *S. multiflora* I called it. I have it from Florida to S. W. Texas. It is certainly undescribed in our Flora - I sent a specimen to Scribnr and he says 't's the same as one collected by Pringle in ³⁴⁵Mexico and by him (Scribnr) referred to *S. densiflora* Bong. and described by Desvaux in "Flora Chilena", page, 372 - which work we have not. He also says 't's the same as *S. Gouini*, Fourc. I examined Fourcier's poor description of the latter and as he says

In sending specimens of plants for investigation it is desirable to include the entire plant; if it is too large, portions showing leaves, flowers, and fruit are sufficient. It is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts may shrink and break so as to be hardly recognizable. When dried plants are sent they should be protected from breakage in the mail by being inclosed in sheets of paper between pieces of stiff pasteboard. If specimens are to be sent fresh, moisten them slightly and pack them tightly in a box or in a bundle, wrapping them in heavy paper. Write the name of the sender on the outside. In the letter accompanying the specimens state where each plant was collected, the date, the name of the collector, and add any other notes in regard to the economic value of the plant.

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United States Department of Agriculture,

Botanical Division,

Washington, D. C.,

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flowering glumes are 5 mm., I concluded his plant could not be a *Spartina*. Engl. & Gray in *Plauta Lindheimeri* published a *Spartina junciformis*, which I suspect may be the new species. We have no specimen of it. The new species seems to be confined to the coast, and is the same as in Chapman's Flora is called *S. gracilis* H. K. from which it is very different both in character and range.

Truly Yours
Geo. Vasey

In sending specimens of plants for investigation it is desirable to include the entire plant; if it is too large, portions showing leaves, flowers, and fruit are sufficient. It is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts may shrink and break so as to be hardly recognizable. When dried plants are sent they should be protected from breakage in the mail by being inclosed in sheets of paper between pieces of stiff pasteboard. If specimens are to be sent fresh, moisten them slightly and pack them tightly in a box or in a bundle, wrapping them in heavy paper. Write the name of the sender on the outside. In the letter accompanying the specimens state where each plant was collected, the date, the name of the collector, and add any other notes in regard to the economic value of the plant.

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United States Department of Agriculture,

Botanical Division.

Washington, D. C., Nov 21 1891.

Prof. Stevens Watson
My dear Sir'

Yours of the 17th inst is at hand. I had also a letter from Mr Hindleau relating to the proposed botanical ~~Survey~~ display, and I answered him pointing out the immeasurability, and impossibility of making a complete exhibit in the time which is available. It is evident that Mr. H. has little idea of the work and little qualification. It has been my design to make something of a botanical display for this Department, particularly of economic and medicinal plants, and probably one case as a type or example of our Herbarium. Prof. Goode of the Smithsonian I am informed proposed to make a full exhibit of our U. S. plants. I will see him and learn definitely.

I return to day the package of Cal. grasses and with thanks. I find that I have duplicates of *Atropis pauciflora* of Bolander's Collection.

Truly yours
Geo. Vasey

Dr Geo Vasey

Letter and notes
on Poa

Coll. Works

v 44.4

4

Department of Agriculture.

Washington, July 2^d 1875

Mr. J. Watson

My dear Sir,

Since I sent home the grasses I have found little time to work on ~~the~~ descriptions, and have concluded to send you my notes in installments. With this I send notes on *Poa tenuifolia* or *Atropis* in several varieties & species. Nos 1 & 2 I take as standard *tenuifolia* - Nos 3 & 4 are very different - I think different species - but we want more material - Whether this is really the *tenuifolia* of Nuttall or not I cannot say as I have seen no original specimens that were complete - *Atropis California* Munro I suppose is an unpublished species. *Sclerochloa California*, Munro is as far as I can learn the same as what I describe as *Poa Audina* Nutt. which is that which you described in Bot. King. as *Poa alpina* var. - The one you describe as *Poa Audina* is I think Mr. Weller No 1142 & 3

of the Wherry Collection (341 original number) which I have classed with *Poa laxa* because I know not where else to put it, but think it is probably a distinct species. There are in our Herb. 2 shots of your No 1319 one of which is a young state of *P. audina* and the other is evidently the same as Wolter 1142 above mentioned & from this last I think you must have drawn your characters. It may be that this is the true *P. audina* Nutt., but if so, we must have a new name for the other. I have seen no specimens of *Sclerochloa Californica* from California except one so called of the Wilkes Exp. of which a note says "a luxuriant state with the spikelets, prolificous." There are undoubted specimens from N. Mexico - one of them (Dr. Bigelow's) in our Herb. Torrey has attached to it Munro's notes ^{viz.} *Sclerochloa Californica* Munro, in Pl. Hart. - *Eragrostis Feudliniana* Steud. fide Steud. 932. This is unquestionably the same as your Nos 1312 & 1313.

There is a *Poa Californica* Steud. Steudel Gram. p 261. n 168 which I suppose to be *Brizopyrum Douglassii*.

More bye & bye
Yours truly, G. W. Vasey

Poa

Section Atropis, Trinervis

Spikes linear or oblong-linear (except when expanded in flowering); flowers linear or lanceolate, little compressed, of firm texture.

1. (*Poa tenuifolia* Nutt. *Atropis California* Munro)

a. ~~x~~ Culms densely caespitose 1-1½ ft. high, smooth, wiry, with 2-3 very short (½ in to 1 in.) setaceous leaves below the middle; radical leaves very short (2 in.) setaceous; panicle 2-3 inches long, ^{1-3 together} linear-oblong; rachis unequal, erect, rather capillary, minutely hispid, flower bearing above the middle, the longer ones reaching to the 2nd joint above; glumes lanceolate, acute; scarious and purple edged, upper one 3-nerved, smooth or nearly so; ^{lower} upper palea linear-lanceolate 3-5 nerved, puberulent, scarious and purplish at the apex, upper palea about equaling the lower, bifid at the apex. Culm and panicle purplish above and at the nodes: flowers not wavy (Character drawn from specimens from Mr J. G. Leinon Nevada) 1318 S. Watson (in part). Prof. Brewin's spec. from Mt. Diabolo are rather larger. Bolander's from Oakland are still coarser, with heavier panicle and culm more leafy. 1132 Kill. & Harf. ~~spikes~~ heavier and more numerous flowered.

1. B.

Culm caespitose, erect, 1-1½ ft. high; leaves rather long (2-4 inches), panicle rather heavier and longer, with more numerous and longer rays (3-5 at each joint); spikelets 3-5 flowered; whole plant light green, or with the flowers slightly tinged.

Characters drawn from specimens from J. G. Lemmon

1318 G. Watson (in part), 1138 J. Wolfe (leaves more rigid)

Arizona, Dr Palmer, rather stouter & more leafy.

2.

B. ~~out~~

Culm 2-2½ ft high, stout, smooth; leaves ~~short~~ short, of the culm 1-2 inches; panicle 3-5 inches long, linear-oblong; compact, or rather loose and interrupted; spikelets 5-6 flowered; glumes rather larger; lower palet ^{than in the preceding.} more scabrous,

(Characters drawn from specimens No 1136 Kellogg & Harford Coll. California). Here, perhaps, should come in Hall 674 R. Mts., 694 Vasey R. Mts. & 1141 J. Wolfe

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B.

Culm tall 2-3 ft high, naked above, 2 or 3 leaves below the middle; sheaths long, rather hispid, blade short & narrow (3-4 inches), ligule elongated and lacerate; panicle 4-6 inches long, upper

rays rather short and strict, lower ones more elongated and spreading; glumes and flowers long and narrow; spikelets about 3 flowered; lower palea linear oblong, minutely granular, hispid on the midrib, and rather pubescent below; rays 5 or more at each joint; panicle ~~of~~ pale green.

(Characters drawn from 1136 Killogg Hartford specimens from Oregon) There are in Her. Zow. and in Her. Gray, specimens like this from Oregon and British America. Specimens from Idaho, Whales Exp. are somewhat similar, but with heavier panicle.

There are other Br. Am. and Alaskan specimens which are rougher & denser panicles of which we cannot be certain without more abundant material.

In this Section belongs also
Poa (Stropis) angustata, and why not our
Glyceria maritima and *distans*?

Poa Audina Nutt. ?

(*Yelnochloa California*, Munro Pl. Hart.)

(*Eragrostis Fendleriana* Steud. Gram. p: 298)

Whole plant glaucous or bluish green; culms tufted (6-18 inches), firm, erect, scabrous or smoothish, leaves of variable length (2-10 inches) rigid and generally involute, pungently pointed, those of the culm very short; panicle $1\frac{1}{2}$ to 3 in. long, oblong or narrow, generally close with very short or nearly sessile rays (usually 3-5 together), sometimes longer and slightly spreading; spikelets ovate or lance ovate, mostly 3-5 flowered; glumes thin and scarious except along the midrib, broadly ovate to lanceolate, 1 nerved, acutish, shorter than the palea, slightly scabrous on the midrib; lower palea broadly ovate or lanceolate, obtusish, scarious at the apex and margin, puberulent or pubescent on the keel & nerves below, 3 nerved, frequently purple tinged; not webbed. The flowers have a soft and loose structure, generally pale.

New Mex. 932 Fendler - 2041 C. Wright - Arizona, D.

Palmer - Nevada, Wherry, Lemmon, Watson 1312 & 1313
Colorado, J. Wolfe - Coulter.